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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,652	05/01/2006	Alex Rapoport		3203

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EXAMINER
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LIPITZ, JEFFREY BRIAN

ART UNIT	PAPER NUMBER
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3769

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04/05/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/577,652

Applicant(s)

RAPOPORT, ALEX

Examiner

JEFFREY B. LIPITZ

Art Unit

3769

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9,10,15-17,19-21 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9,10,15-17,19-21 and 23-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments/amendments filed March 11, 2011 with respect to the 112 rejections have been fully considered but they are not persuasive.

Regarding claims 1 and 9, Applicant asserts that the recitation "the reflective beam collector has convergence only in one plane" is supported by Figure 3A. Applicant is almost correct. First, Applicant's recitation reads "directing element has convergence *in at most one plane*", indicating that the angle cannot change under any circumstance. Of course any movement or unevenness in the tissue would result in the directing element straying from the one plane. So, the recitation is not accurate. Second, Examiner did NOT reject the recitation for not being supported, but rather it was rejected for being indefinite. Applicant's claims still do NOT provide structural cooperation between the elements. How are the first and second radiation directing elements positioned with respect to one another? How are they physically supported? All of the figures provide fixed distances between the two directing elements via the rotator and other illustrated elements. The same types of arguments apply to claims 5, 6, 10, 15 and 20. Applicant appears to believe that disclosures in the specification are included in the scopes of the claims when Applicant uses functional language. They are NOT. Please provide structure that supports these limitations. These rejections have been maintained.

Applicant's amendments with respect to the 101 rejections have been fully considered and are persuasive. These rejections have been withdrawn.

Applicant's arguments/amendments with respect to the prior art rejections have been fully considered but they are not persuasive.

Applicant argues that neither of the references applies a single beam to the tissue. This is NOT true. Please fully read the references. Koziol refers to the incoming beam, the intercepting of that beam and the splitting up of that beam (Field of the Invention).

Applicant's arguments generally show a lack of understanding of the statutes being applied and Examiner's duty to apply a "broad reasonable interpretation" to the limitations. It is recommended that Applicant obtain the services of an attorney or patent agent to complete prosecution. If that is not possible or desired, Applicant should contact the Examiner directly. Examiner is willing to discuss the rejections and interpretations of the claims. The prior art rejections have been maintained.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4, 9, 15 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Despite Applicant's stated belief

Art Unit: 3769

that this is not new matter, it is. Applicant cannot pick a part of the recited range that was not originally disclosed. Please only recite ranges that are explicitly supported.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 5, 6, 9, 10, 15 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 5, 6, 9, 10, 15 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See the Response to Arguments *supra* for more details, or reread the previous office action.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 9-10, 15-17, 19-21 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azar et al. (7066929), hereinafter Azar in combination with Koziol (5425727).

Regarding claims 1, 3, 4, 9, 15, 17, 23 and 25, Azar teaches performing selective photothermolysis on subcutaneous tissues using a plurality of beams that have energy insufficient to cause damage at the surface, but overlap within the tissue to cause

Art Unit: 3769

damage (Abstract). Thus, radiation at the surface is less than the maximum fluence of the radiation within the tissue. Azar teaches using radiation between 550- 800 nm (Col 6), which abuts Applicant's claimed range. Applicant provides no rationale for using 801 as the lower limit in particular. Therefore, Examiner interprets this value as not critical or essential to the practice of the invention, and NOT supported by the disclosure. It would be obvious to use *any* wavelength with the invention of Azar because Azar's invention is related to reducing power at the surface, while providing a greater power a target volume below. Thus, as long as the wavelength is capable of penetrating the skin, it would have been obvious to use that wavelength with the invention of Azar to reduce the chances of burning the skin or tissue surface. Azar's *method* does NOT include using Applicant's claimed structure.

Attention is now directed to Koziol who teaches a light source (30; Figure 2) that emits light that is divided up when it reflects off of reflectors (12a-h), which are rotatable about hub (18; Column 5, Lines 45-57). This divided up light is then reflected off of peripheral reflectors (14a-h), which directs the light to a depth within the eye (Column 5, Lines 62- 66). The light beams are clearly illustrated as converging towards a volume (e.g. the stroma) that could be overlap the symmetry axis of the device in the case of a full lenticular ablation (Figure5). Koziol illustrates that the symmetry and rotation axes are collinear. Kozil's radiation necessarily has a maximum energy fluence greater than the fluence along the symmetry axis, since the divided beams impinge the surface at a displaced distance and at an angle relative to the axis (Figure 2). Koziol's radiation necessarily has a lower radiation at the tissue surface than the predetermined energy

Art Unit: 3769

fluence, since the radiation with the predetermined fluence is divided before it reaches the surface, and only converges once inside the tissue. Koziol's peripheral reflectors (14a-h) are rigidly attached to their hubs; and therefore, necessarily provide convergence in at most one plane. Koziol teaches providing a desired depth via focusing of the radiant energy (Col. 2, Lines 47-49), which is necessarily independent from the control of the light in the plane of the tissue surface.

It would have been obvious to use the beam converter of Koziol with the method and device of Azar, because it would have enabled the input beam to be divided into more sub-beams, which would have reduced the fluence at the surface. It also would have been advantageous to use the device of Koziol to perform the method of Azar, because it would have required one light source, which would have reduced the number of elements relative to Azar's current apparatus. Furthermore, it would have been advantageous to use a device where the symmetry axis and the rotational axis are collinear, because it would have enabled the beams to recombine over a greater volume within the tissue, which would have again reduced the total energy at the surface and provided a larger treatment region. It also would have been obvious to use the converter of Koziol with the device/method of Azar, because the main point of Azar's invention is to provide a method that causes damage deep within the skin without causing epidermal damage (Abstract).

Regarding claims 5, 19, 24 and 26-28, Koziol inherently teaches that the input radiation is greater than the redirected radiation, since the input radiation is divided. None of the elements have optical power.

Regarding claims 6 and 20, Applicant recites that the focal point is outside the target volume and that the beam is non-focused. It is truly unclear what elements enable this to occur, as discussed in the 112 rejections supra.

Regarding claims 7 and 21, Azar teaches that the light incident on the skin is collimated by a collimating optic (82; Figure 6). Although Koziol does NOT provide such an optic for the redirected light, it would have been obvious to provide one because doing so would reduce the interference of light beams/pulses with other beams/pulse redirected from the same reflector. This reduction in interference would result in more predictable and reproducible results.

Regarding claim 16, Koziol teaches that the central reflectors (12a-h) are rotated during irradiation such that the incident radiation is radially spread out (Column 7, Lines 60-69). It would have been obvious to also rotate during the method of Azar, because Azar also uses a scanner for providing forming a pattern in tissue. It would particularly advantageous to rotate while performing the method because it would inherently enable a larger volume of tissue to be irradiated in a smaller amount of time.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY B. LIPITZ whose telephone number is (571)270-5612. The examiner can normally be reached on Monday to Thursday, 10 am to 6:30 pm.



Art Unit: 3769

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry M. Johnson III can be reached on (571)272-4768. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFREY B LIPITZ/  
Examiner, Art Unit 3769

/Henry M. Johnson, III/  
Primary Examiner, Art Unit 3769